F actual L ines A bout S ubmarine H azards

July-September 2015 Edition

FLASH is a periodic release by the Afloat Safety Directorate of the Naval Safety Center. The information contained herein is a summary of research from selected reports of submarine hazards to assist you in your mishap prevention program. The FLASH is intended to give advance coverage of safety-related information while reducing individual reading time. This bulletin does **not**, in itself, constitute authority but will cite authoritative references when available. **It is recommended that this newsletter be made available to all hands.**

PROPER LIFE PRESERVER PMS COULD PRESERVE YOUR LIFE

INSIDE THIS ISSUE	
Deputy Director, Submarine Safety Division	2
Recent Mishaps/Lessons Learned	3
Advisories	6
Contact	7

From the Submarine Safety Division Deputy Director

LT John Oravitz

"Habitability"

The "General Departmental" checklist will become the "Habitability" checklist before our next Afloat Operational Safety Assessment (AOSA). The Submarine Division is upgrading the General Departmental checklist by removing line items that belong in other program areas and adding line items from the INSURV Habitability, Medical, and Galley checklists. This yields better alignment with INSURV checklists, with the intent being better INSURV preparation. Additionally, the Submarine Division has recently discovered multiple and significant class-wide galley deficiencies that require trending, tracking, and Fleet education to prevent mishaps.

"AOSA Process Refinement"

The AOSA process is being refined continuously with the goal being a reasonably accurate assessment of command safety culture and safety climate. Trial and error has proven that our checklists will remain a substantial part of the future AOSA and they will be leveraged to assess safety culture and climate. "Beta testing" to develop the AOSA process has continuously yielded one constant. The Fleet likes our checklists because each line item has the appropriate reference(s). That being said, our checklists are published on our website and updated regularly to use for your self-assessments and inspection preparations. Keep an eye out for the updated "Habitability" checklist.


Recent Mishaps/Lessons Learned

1. (Mishap) Rushing work to meet schedule (SSN/SSGN/SSBN) During hydro-lancing, personnel were working too fast to catch up to schedule. The lance operator removed the lance from a tube while the machine was still pressurized and the worker was sprayed in the face with high pressure water. The pedal operator secured the water while the lance operator put the lance back into a tube to reduce risk of further damage. The lance operator sustained a minor cut from the chin, down the neck to the top of the collar bone. He was taken to the hospital and was discharged with no further actions needed. All personnel should understand the hazards involved with operating equipment and the hazards of rushing to meet a deadline. Good communication with supervisors and fellow operators can prevent the worker from having a false sense of urgency. This is an example of where communication in the Time Critical Risk Management (TCRM) model of ORM could have prevented this mishap.

2. (Mishap) Topside Safety (SSN) A Sailor was carrying a potable water hose from the pier to the ship and twisted his ankle when he stepped on an uneven piece of MIP. The SVM was taken to a local urgent care facility for X-rays which revealed a fracture in his right ankle. Following the mishap, the ship hung caution signs and covered the uneven surface. This action was reactive vice proactive. Commands should be vigilant in recognizing hazards and be proactive in mitigating these risks.

3. (Mishap) Head injury (SSN/SSBN/SSGN) A Sailor attempted to go around a shipyard worker who was working on the ladder between ERML and ERUL, when he struck the top of his head on an EAB manifold. He received two staples to close the wound. He should have asked the shipyard worker to briefly pause work so he could get around. Also, there are other routes in the engine room that he could have taken.

4. (Mishap) Head injury (SSN/SSBN/SSGN) A Sailor was carrying a torque calibration kit through the weapons shipping scuttle with his back to the ladder well. He missed a rung on the ladder well, fell between the ladder rungs, and struck his face on a bracket. They transported him to a local military hospital, where he received 12 sutures. He did not


assess the potential hazard of his actions and should have requested assistance to move the equipment.

5. (Mishap) Head injury (SSN/SSBN/SSGN) A Sailor jumped while saying "Hello!" to a shipmate. He struck his head on a light fixture resulting in a 6" laceration requiring 11 staples. He disregarded situational awareness of his surroundings. There are low hanging pipes and light fixtures throughout a submarine and caution must be taken at all times to avoid head injuries.

6. (Mishap) SVRLA Battery Arc Flash (SSN/SSBN/SSGN) An arc flash occurred during ground isolation inspection of a SVRLA battery. Personnel took actions to extinguish the fire and the proper response prevented this casualty from becoming more severe. Continuing to incorporate lessons learned from previous mishaps, such as the fire onboard USS Bonefish, approved procedures, and level of knowledge will continue to prevent these types of casualties from becoming costly mishaps. Additionally, vigilance during zone inspections and proper PMS will identify the electrical hazards that lead to these problems.

7. (Damage Control) Portable AFFF Injection Unit (PAIU) (SSN/SSBN/SSGN) When performing 5551, A-1, Inspect and Weigh PAIU, there is no longer a weight requirement for the extinguisher. Since it is no longer weighed, when filling out the record tag per step 1.ah, record the measurement from the bottom lip of the fill opening to the free surface of the AFFF.

8. (Damage Control) Self-Contained Breathing Apparatus (SCBA) (SSN/SSBN/SSGN) Scheduling Aid 1 for EDC1 MIP 5519/016 states "MRC 36M-1 (C5DF) is not applicable to submarines. (Submarine SCBA functional tests are planned and accomplished by IMAs/FMAs.)" This does not mean that the 36 month requirement for the functionality test is not applicable. IMAs/FMAs should track this maintenance and have it on the PMR when it is due. However, IAW MRC M-1R, step B.(2), the maintenance person is to verify a SCBA functional test has occurred within the last 36 months. When you inspect the SCBA and notice the functional test is due or close to becoming due, coordinate with the IMA/FMA to ensure it is on the PMR to be accomplished during the next upkeep. Even though IMA/FMA should track and perform this maintenance, it is still the ship's damage control gear.


9. (Deck) Mk-1 Auto-Inflatable Life Preservers (SSN/SSBN/SSGN) Recent instances of the Mk-1 failing to inflate when personnel fell overboard in-port have raised concerns about the performance of PMS on these preservers. We will inspect 100% of Mk-1 life preservers during safety assessments to include ORM evolution evaluations similar to PMS monitoring. Additionally, SUBLANT is evaluating the discrepancies noted during PMS monitors.

10. (HAZMAT) Corrosive Lockers (SSN/SSBN/SSGN) The SUBLANT safety officer has engaged with NAVSEA 05/07 and NSWCCD concerning commercial corrosive lockers. It was stated that the commercial lockers in the NSTM 670 are only applicable to surface ships, not submarines. This is based on space limitations on submarines. The front matter of the NSTM 670 states all requirements are for both submarine and surface ships. This should be changed in the next ACN. In the next ACN there will be a statement similar to the following: "Unless otherwise stated, requirements stated in NSTM 670 are for surface afloat units. Submarine requirements will be stated in the applicable paragraphs".

Afloat Safety Advisories

Effective COMNAVSAFECEN Submarine Safety Advisories		
	2010	
6-10	081904Z Dec 10	ASBESTOS REMOVAL PROTECTION
	2011	
2-11	041532Z Mar 11	HEAT STRESS METER CLARIFICATION
3-11	071634Z Mar 11	HEAT STRESS SURVEY CLARIFICATION
5-11	021648Z May 11	REPORTABLE MISHAP CLARIFICATION AND REPORTING
9-11	181607Z Nov 11	AFLOAT FALL PROTECTION
	2012	
3-12	231505Z Aug 12	REPORTING AFLOAT MISHAPS
4-12	291342Z Aug 12	REPLACEMENT OF OPNAVINST 5100.28, HMUG, WITH NSTM 670
	2013	
4-13	295572 Aug 13	HEAT STRESS METER CLARIFICATION
	2014	
2-14	101655Z Feb 14	NAVAL SAFETY SUPERVISOR COURSE REQUIREMENT CHANGE
4-14	151837Z APR 14	ELECTRICAL SAFETY DURING PMS
1-15	061446Z JAN 15	EFFECTIVE COMNAVSAFECEN AFLOAT SAFETY ADVISORIES FOR SURFACE SHIPS AND SUBMARINES
2-15	301542ZJAN2015	SHOCK HAZARD FOR IET MODEL 1864-1644 AND 1864-9700 MEGOHMMETERS IN USN INVENTORY
2-15	191853Z MAY 15	FOLLOW-UP ON COMNAVSAFECEN AFLOAT SAFETY ADVISORY 2-15, SHOCK HAZARD FOR IET MODEL 1864-1644 AND 1864-9700 MEGOHMMETERS IN USN INVENTORY

Contact Us

Naval Safety Center
375 A Street
Norfolk, Virginia 23511
Phone: 757-444-3520, ext. 7838
DSN: 564-3520, ext. 7838
Fax: 757-444-7205 (DSN 564)
SAFE-submarines@navy.mil
http://www.public.navy.mil/navsafecen/
https://www.csp.navy.smil.mil/NSC-SUB/

Commander Naval Safety Center
RDML C.J. Murray

Programs Director, Afloat Safety
CDR J.L. Bennett

Deputy Director, Afloat Safety
Mr. Ron Keim

SUBMARINE DIVISION SAFETY ANALYSTS

Director, Submarine Safety
CDR Eric Stein

Deputy Director, Submarine Safety
LT John Oravitz

Submarine Safety Analyst/Scheduler
LT Mike Lopez

LCPO, Submarine Safety
EMC(SS) Louie Belk

Damage Control Safety Analyst
MMC(SS) Joshua Alkire

Electrical/Mechanical Safety Analyst
ETC(SS) Adam Kingsley